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DRAFT MEETING MINUTES FROM RESTORATION ADVISORY BOARD MEETING HELD 12 AUGUST 1999 WITH ATTACHMENTS NAS FORT WORTH TX
2/10/2000
RESTORATION ADVISORY BOARD

NAVAL AIR STATION FORT WORTH JRB CARSWELL FIELD TEXAS

ADMINISTRATIVE RECORD COVER SHEET

AR File Number 518

Carswell/Plant 4
Restoration Advisory Board Meeting

DRAFT
Summary Minutes of February 10, 2000
Regular Quarterly Meeting

A regular meeting of the Carswell/Plant 4 Restoration Advisory Board (RAB) was held February 10, 2000, at the Carswell Lanes Bowling Center Meeting Room, Building 1815, on the corner of Military Parkway and Hulk Road at Naval Air Station (NAS) Fort Worth Joint Reserve Base (JRB). The RAB meeting began at 6:00 p.m.

Agenda

Welcome/Introductions/Minutes
Westworth Redevelopment Authority
- Program Update

Air Force Plant 4 (George Walters)
- Fish Tissue Sampling Update
- East Parking Lot/Building 181 SVE System Update
- Six-Phase Soil Heating Pilot Project

Carswell On-Base (Don Ficklen, Mike Dodyk)
- Project Update

Carswell Off-Base (Rafael Vazquez)
- Program Update
- Property Transfer Update

Open Discussion/Questions

Welcome and Introduction of Attendees

Community Co-Chair J'Nell Pate called the meeting to order and introductions were made. Ms. Pate asked that any corrections and additions be presented regarding the November RAB meeting minutes. Hearing none, the minutes from the previous meeting were approved.

Comments to the draft meeting minutes for this meeting (February 10, 2000) should be sent to:

Ms. Valerie Eisenstein
HydroGeoLogic, Inc.
1155 Herndon Parkway, Suite 900
Herndon, Virginia 20170

Phone: (703) 736-4513
Fax: (703) 471-4180
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Westworth Redevelopment Authority

Ms. Pate introduced Mr. Leland Clemons who conducted a briefing on the activities and progress made by the Westworth Redevelopment Authority since his briefing to the RAB last August.

He provided an update on work occurring in the Kings Branch area, noting that 43 of 150 houses in the area have been removed, and 12 houses are ready to be removed. Additionally, 36 more houses are scheduled for removal from the area in the next 30 days, contingent upon favorable weather conditions.

Mr. Clemons provided a briefing regarding the housing auction held by the Westworth Redevelopment Authority. He indicated that the auction itself was not particularly successful, noting that the sales at the auction were all cash and final. Few individuals had the proper financing and land acquisition arrangements lined up to make purchases at the auction. Subsequently, however, numerous individuals have been able to arrange their financing and land acquisition orders and have made land purchases.

Work to renovate the golf course has begun, with the work focusing on the Number 1 Tee Box.

Seventy acres of the area formerly known as Wherry Housing have been listed with Trammel Crow. They have been in discussion with several perspective developers pursuing light industrial/office/warehouse development. It is hopeful that some activity associated with the listing will occur in the next 30 to 60 days.

Three groups have submitted letters of interest regarding residential development on the Kings Branch parcel of land. Mr. Clemons indicated that while residential development is not part of the Westworth Redevelopment Authority EDC (Economic Development Conveyance) agreement, this type of development does drive other aspects of development in the area that are very important to program goals.

Air Force Plant 4

Ms. Pate introduced George Walters to provide an update on the ongoing activities that are occurring at AFP 4. Handouts were provided outlining the Air Force Plant 4 (AFP 4) program status (Attachment 1), and a fact sheet was presented outlining the Six Phase Soil Heating system being implemented at Building 181 (Attachment 2). A Carswell/Plant 4 RAB fact sheet outlining Installation Restoration Program activities at the NAS Fort Worth JRB also was referenced (Attachment 3).

East Parking Lot/Building 181 SVE System Update

Mr. Walters provided a briefing on the activities associated with the Soil Vapor Extraction (SVE) System at Building 181. A mechanical failure associated with the water separator has occurred. A part has been ordered for the system, and it is hoped that the system will be back up and functioning in a few weeks, with the restart date estimated to be February 21. He indicated that this system is critical for the Soil Heating Pilot study that he then discussed.

Mr. Walters outlined the Six Phase Soil Heating Pilot Study that is scheduled to begin at Building 181. A video was shown describing three innovative groundwater remediation studies at Cape Canaveral, FL, including a six phase heating process similar to the one that will be implemented at Building 181.

At the East Parking Lot site, 21 new shallow wells were installed along with 5 new deep wells. A hydraulic containment wall consisting of 15 wells will be constructed in a paleochannel of an old creek bed at the site to address the area of highest contamination. The United States Geological Survey (USGS) has completed computer modeling at the site to determine the correct, most cost-effective pumping rates. This system is expected to operate over the next 30 years, if not longer.

At the West Parking Lot site along Bomber Road, dense non-aqueous phase liquid (DNAPL) contamination was discovered. Site remediation took place at the site to remove the contaminated soils but residual amounts of DNAPL were still present in the groundwater. In 1998, during the installation of sampling wells in the surrounding region, it was discovered that there were fractures in the underlying Walnut Formation bedrock. This raised concerns about DNAPL contamination of the underlying groundwater. Mr. Walters noted that because DNAPL is heavier than water, it will tend to sink below the water table and because of low viscosity, DNAPL will travel in the ground faster than water. He explained that, given these characteristics, DNAPL tends to follow the downward gradient of the underlying bedrock, not necessarily the directionality of the groundwater flow, making it difficult to locate. It is not known how much DNAPL exists in the fractures of the Walnut Formation bedrock, but 100 to 200 gallons of DNAPL have already been removed from the area. While the fractures present a challenge to the remediation process, efforts are under way, in the form of an interim act, to begin remediating the area until a long-term remediation program can be established.

Mr. Walters ended his briefing by providing several web sites to enable individuals to read more about DNAPL contamination.

Fish Tissue Sampling Update

Mr. Walters then introduced Dr. J. Bruce Moring of the USGS to provide a summary of the results related to the fish tissue sampling project that was

undertaken at Lake Worth and to explain the human health risk assessment to be conducted by the Texas Natural Resource Conservation Commission (TNRCC).

Currently, the data results from the sampling project are being reviewed jointly by the TNRCC and the USGS to ensure quality control of the results.

Due to technical difficulties with Dr. Moring's presentation, it was decided to postpone his presentation until later in the meeting and continue with the Carswell Off-Base briefing.

Carswell Off-Base

Ms. Pate introduced Rafael Vazquez who conducted the Carswell Off-Base briefing. Handouts were available outlining the Carswell Off-Base program status (Attachment 4).

Program Update

Mr. Vazquez began his presentation by providing a program status update. The field work for four sites, the Aerospace Museum, the Golf Course Maintenance Yard, the Unnamed Stream, and the Grounds Maintenance Yard, was completed in March of 1999. Approval of the closure report for the Golf Course Maintenance Yard was obtained from the TNRCC in August of 1999. The closure report for the Unnamed Stream was submitted to the TNRCC on September 29, 1999; however, additional soil delineation work will be needed at the site. The closure reports for two of the sites are being revised because of a change in contractor support that occurred before the completion of the reports. UNITEC will be completing the reports in March of 2000.

An update on work continuing at the Weapons Storage Area was provided. Additional field investigations at the site were conducted in September of 1999, with additional soil excavation work completed in November of 1999. A complete closure report for the site is expected by April of 2000. Following site closure, the sale of the property will be arranged.

Mr. Vazquez also provided a program update involving the Sanitary Sewer Investigations. Originally, a Phase I study occurred on base whereby all of the manholes were sampled, and hits were detected. Funding for additional testing has been granted, and work plans are scheduled to be completed in February of 2000. Field investigations are scheduled for March of 2000. It is expected that all of the issues will be resolved and the closure report for the site will by complete by the fall of 2000.

Regarding the program status update for the Landfill Investigations, Mr. Vazquez indicated that additional landfill field investigations are scheduled for February of 2000 in order to complete the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) for four landfills. The investigations are to delineate

contaminants at those sites. Once the delineational studies are complete, steps will be taken to remediate those areas. Mr. Vazquez indicated that, most likely, landfill caps will be needed at several of the sites under investigation. Completion of any corrective measure actions at these sites is scheduled for August of 2000.

Mr. Vazquez finished his presentation by providing an update of property transfer activities. In December of 1999, the Carswell Business Park area was transferred. The area represents about 79 acres adjacent to U.S. Highway 183. Work continues to transfer the Federal Bureau of Prison Hospital land. The land is currently under lease by the Federal Bureau of Prison Hospital. A letter from the TNRCC regarding the closure of the underground storage tanks (UST) is needed before the transfer can take place. The transfer of lands to the Navy continues. The buildings on the property have already been transferred to the Navy, and it is expected that the land transfer will occur in March of 2000. The Kings Branch Housing area transfer is scheduled to occur in May of 2000, and the Weapons Storage Area land will probably be put up for sale this summer. Finally, the Horse Stables Area will be ready for transfer in September of 2000, and portions of the golf course and Wherry Housing area should be ready for transfer within the next few years.

Air Force Plant 4 (Continued)

Fish Tissue Sampling Update (Continued)

At this time, Dr. J. Bruce Moring continued with his presentation involving the results of the fish tissue sampling study at Lake Worth. He provided a summary of the history of the fish tissue study. He reminded the RAB that the study was conducted in response to Texas Department of Health (TDH) and Federal Agency for Toxic Substances and Disease Registry (ATSDR) concerns that an indeterminate public health risk may exist in respect to the consumption of fish from Lake Worth. This concern was based on the public health risk assessment conducted for AFP 4.

Dr. Moring provided a detailed description of how the samples were collected and measured. The samples were tested for several types of hyrdrophobic metals and organic compounds. Of the 55 fish that were collected, all were found to contain trace concentrations of several metals such as selenium and mercury. In regard to the levels of metals detected in the fish, no major differences were shown between species. Dr. Moring indicated that the longer-living, bottom-dwelling fish did tend to show a higher concentration of metals, which is to be expected given the length of their life span and their feeding habits. Organochlorines, in the form of both pesticide and non-pesticide derivatives, were detected in the fish at Lake Worth. It appears that carp and channel catfish species tend to show higher concentrations of these compounds in their tissues. Dr. Moring indicated that the findings were very typical of results derived from other fish studies conducted in the area.

The TDH is currently working to verify the data provided by the USGS; reviewing discrepancies among anomalous data. Once the TDH is satisfied with the data, they will perform a human health risk assessment to calculate human health risk based on concentrations of each of the compounds in question. A cumulative risk will be calculated for each compound. These findings will then be presented to the state health commission, which will use the data to determine whether a regulatory control involving fishing practices at Lake Worth will need to be issued. Finally, the USGS will generate and issue a report summarizing the data collected.

Ms. Pate questioned whether at this point in time there was any way to know whether or not it is safe to eat the fish from Lake Worth. Dr. Moring responded that there is no way to know at this point, noting that the TDH had declined an invitation to come and address the RAB that evening because of previous commitments. The TDH will likely need more time to review the data before making a determination regarding the risk associated with consuming fish from Lake Worth.

Raphael Brock from Texas Parks and Wildlife asked whether any of the results from the Lake Worth study had been compared to data derived from a previous study at Mountain Creek Lake. Dr. Moring noted that the PCB concentrations were very similar at the two study areas. He added that regardless of how the state health commission views the sampling results, PCB concentrations will weigh very heavily in the outcome of their decision, as they did in the Mountain Creek Lake study.

W.F. Olshefski, a community member, questioned whether the area of the lake from which the fish were sampled affected the sampling results. Dr. Moring indicated that a lot of effort was put into collecting samples from various regions of Lake Worth. He indicated that with species such as bass and crappie that move more slowly than species such as carp, only slight differences in the samples were seen. Mr. Olshefski also asked whether there had been any difficulty in catching the fish needed for the tissue sampling study. Dr. Moring noted that small mouth buffalo were the only species that proved to be a bit troublesome.

Nancy Crosskill, a community member, questioned how long the risk assessment process takes. Dr. Moring stated that in the case of the Mountain Creek Lake risk assessment, the state health commission returned its findings 2 to 3 months after the date that the data was submitted.

Tim Sewell from the TNRCC, Region 4 asked about concentration levels of certain metals in the diagrams. Dr. Moring answered by referring back to some of the bar charts in his presentations.

Nick Dear, a community member, inquired as to the outcome of the Mountain Creek Lake study. Dr. Moring indicated that a possession ban was put into effect

at Mountain Creek Lake limiting the fishing of all species in the area to catch and release activities. He again noted that the PCB data weighed heavily into the decision by the state health commission reviewing the data.

Gale Cupp, a community member, questioned how the TDH will inform the City of Fort Worth and surrounding area of the health commission's decision regarding the health risk assessment at Lake Worth. Dr. Moring explained that the TDH will issue an immediate press release reflecting the decision made by the state health commission. This press release will be forwarded to all of the local newspapers. In the past, similar health commission decisions have also been disseminated through the RAB and through sign postings. Dan Johnson from Air Force Aeronautical Systems Center Public Affairs noted that when the results are returned, a public meeting will be held to discuss the decision of the state health commission.

Carswell On-Base

Ms. Pate introduced Michael Dodyk to provide a program update on the work being conducted on base at the former Carswell AFB. Handouts were available outlining the Carswell On-Base program update (Attachment 5).

Project Update

Mr. Dodyk began by providing an overview of the work associated with the Solid Waste Management Units (SWMU) and the Areas of Concern (AOC) on base. Work plans were submitted to AFCEE in December of 1999 for the following sites: SWMUs 19, 20, and 21 (the former fire training area no. 2), SWMU 53 (the storm water drainage unit), AOC 17 (a suspected former landfill), and AOCs 18 and 19 (suspected former fire training areas). Field work is scheduled to begin in these areas in April 2000.

Mr. Dodyk continued with an update on the base-wide groundwater sampling and analysis program. The 2000 Groundwater Sampling and Analysis Plan was submitted to AFCEE in December of 1999. The plan outlines the quarterly groundwater monitoring activities for NAS Fort Worth. The 1999 Annual Report, which details the plume characteristics and trends since the beginning of the Groundwater Sampling and Analysis Program, was submitted to AFCEE in January 2000. The next quarterly groundwater sampling event, where samples will be collected from all groundwater wells on base, is scheduled for later this month.

Mr. Dodyk then provided an overview of the RCRA Facility Investigation of landfills being conducted. Additional field activities are needed at the following six landfills on base: Landfills 1, 2, 3, 6, 7, and 9. A Draft Phase III RFI Work Plan was submitted to AFCEE in December of 1999 outlining additional field

work that needs to be conducted. Field activities are proposed for the spring of 2000. The submittal of an RFI Report for these landfill sites is planned for the summer of 2000, pending successful completion of the delineation activities. A Draft Final RFI Report was received at AFCEE recommending final closure of Landfill 10 and deeming no further action necessary at the site. This Landfill 10 Final RFI Report will be submitted to the TNRCC later this month.

In regards to the Waste Accumulation Areas (WAA), the initial field investigation of 16 WAAs was completed in June 1999. A Draft Phase II RFI Work Plan was submitted to AFCEE in early February that presented the investigation results and proposed that additional soil and groundwater sampling be completed for 9 of the 16 WAAs. An RFI Report is currently being prepared for submittal in the spring of 2000 to the TNRCC to present findings and to recommend no further action for 7 of the 16 WAAs.

Mr. Dodyk continued with an overview of the current UST investigations being conducted on base. The initial UST investigation results were presented to AFCEE in November 1999, and the initial results of the investigation were briefed to TNRCC in December 1999. Initial findings indicate that 5 of the 12 USTs may meet closure requirements. Documentation requesting closures for these five UST sites was submitted to AFCEE earlier this month. The remaining seven USTs require additional soil and/or groundwater investigation.

Next, an overview of the corrective measures taken at AOC 13 was provided by Mr. Dodyk. A site investigation at AOC 13 was completed in 1998, and it identified contamination beneath AOC 13 (the Hobby Shop oil water separator and associated UST). Design documents to remove and replace the oil water separator and underground storage tank were submitted to AFCEE and the Navy in October of 1999. The Request for Proposal (RFP) solicited bids for the removal and replacement of the oil water separator and the UST from removal contractors, and a pre-bid meeting was held on January 14, 2000. Three contractors submitted bids for the work. Construction activities at the site are scheduled to begin this spring.

In regards to the AOC 4 Site Investigation Report, the field investigation activities at AOC 4 (the Fuel Hydrant System used to refuel bombers and tankers on base) were completed in January of 1999. The Draft Site Investigation Report and Assessment Report Form were submitted to the TNRCC in August 1999. In 1999, weekly product removal and quarterly groundwater monitoring occurred. In 2000, weekly product removal will continue, as necessary, along with semi-annual monitoring. The Internal Draft Annual Groundwater Sampling Report for 1999 will be submitted to AFCEE later this month.

Briefing on the monitoring well abandonment and repair activities, Mr. Dodyk reported that the work plan for well abandonment and repair was submitted to the TNRCC in January of 2000, and since the work plan was submitted, work

requests have been received for two additional wells. Currently, 12 monitoring wells are proposed for abandonment and 5 are proposed for extensive repairs. Field efforts are scheduled to begin in the spring of 2000.

Mr. Dodyk wrapped up his briefing with an overview of the work being conducted at SWMUs 7 and 8. A final Closure Report was submitted to the TNRCC in January of 2000 requesting no further action at SWMU 7 (the oil water separator located at Building 1628) and SWMU 8 (the associated waste oil UST). The request for no further action is based on the conclusion that there has been no release of hazardous constituents from either site.

James Rau, a Heron Drive resident living along the southern shore of Lake Worth, questioned what substances should be targeted when having a well tested. Miquette Rochford, a contractor working for AFCEE, indicated that volatile organic compounds (VOC) are the primary contaminants found at AFP 4 and at NAS Fort Worth JRB. She indicated that the standard testing procedure to measure VOCs is EPA method 8260.

Open Discussion/Questions

A brief discussion was held regarding the air show to be held May 13-14, 2000, at NAS Fort Worth JRB.

Commander Craig Love from NAS Fort Worth JRB indicated that due to the high number of people that arrive for the air show, it would be difficult to accommodate many of the individuals on base that attend the RAB meetings from out of town. Parking passes for those helping out at the RAB booth would be provided.

Ms. Pate indicated that copies of the RAB charter were available at the meeting. She stated that discussion of the charter would be scheduled for the RAB meeting to be held on May 11, 2000.

Mr. Olshefski requested that an update be provided on the tree study. Mr. Walters explained that the study continues. The trees continue to grow, and an irrigation system has been installed. The RAB will be kept abreast of the study as it progresses.

A community member questioned what affect contamination at Lake Worth might have on residents living around the lake. Lynn Schuetter of Jacobs Engineering described the procedures for sampling contamination of lake water in Lake Worth every six months, and indicated that none has been found.

A discussion ensued among community members regarding the testing of groundwater wells in the area.

James Rau, a community member, inquired whether extensive plans exist to develop the land around Lake Worth. Robert Taylor from the City of Fort Worth was not aware of the

information about which the community member was asking, and the community member offered to share some documentation from his neighborhood association. This question led to a continuation of the earlier discussion as to the directional flow of water and contaminants and well sampling techniques.

Adjournment

The next RAB meeting was scheduled for May 11, 2000, at 6:00 p.m.
The meeting was adjourned at 7:35 p.m.

In Attendance

Carswell DERA (On-Base)
- Mike Dodyk, HQ AFCEE/ERD
- Don Ficklen, HQ AFCEE/ERD
- Mike Hawkins, HQ/AFCEE
- Jim Costello, HydroGeoLogic, Inc.
- Valerie Eisenstein, HydroGeoLogic, Inc.
- Todd Harrah, HydroGeoLogic, Inc.
- Miquette Rochford, HydroGeoLogic, Inc.
- Amy Hardberger, UNITEC
- Gregory Harris, UNITEC

Carswell AFBCA (Off-Base)
- Rafael Vazquez, AFBCA
- Charles Pringle, HQ/AFCEE/ERB

Air Force Plant 4
- Daniel Johnson, ASC/ENVR
- George Walters, ASC/ENVR
- Don Yates, ASC/ENVR
- Lynn Schuetter, Jacobs Engineering
- Victor Dozzi, IT Corporation
- Rick Wice, IT Corporation
- Ali Khan, WP AFB
- Luke Gilpin, Lockheed Martin

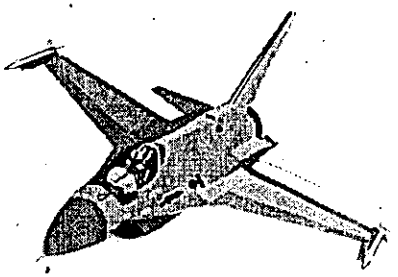
United States Navy
- Commander Craig Love
- Jolene Nelson

Texas Natural Resource Conservation Commission
- Ray Risner
- Tim Sewell, Region 4
- Ludmila Voskov

United States Geological Society
- Dr. J. Bruce Moring
- Lloyd Woosley

United States Environmental Protection Agency
Gary Miller, Region 6
Others, Off-Base
Nick Dear, Community Member
Dan Kemp, Community Member
Michael Krieg, Community Member
John Maddox, Community Member
W.F. Olshefski, Community Member
J'Nell Pate, Community Member
James Rau, Community Member
Trang Trinh, Community Member
Vince Wilcox, Community Member
Greg Hendrickson, River Oaks
D.W. Owen, River Oaks
Nancy Crosskill, Neighborhood Association, South Lake Worth
Gale Cupp, Neighborhood Association, South Lake Worth
Robert Taylor, City of Fort Worth Water Department
Raphael Brock, Texas Parks and Wildlife
Anita Baker, Star Telegram

Air Force Plant 4



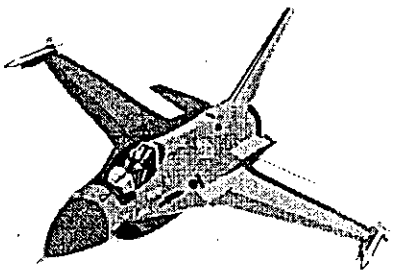
AFP 4/Carswell

Restoration Advisory Board Meeting

10 February 2000

George Walters ASC/ENVR Wright-Patterson AFB OH

Agenda



USGS - Lake Worth Fish Tissue Update - Dr. Bruce Moring

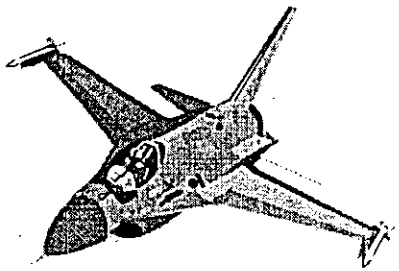
Bldg 181 - Soil Vapor Extraction

Six Phase Soil Heating Pilot Study

East Parking Lot Remedial Action Construction Plans

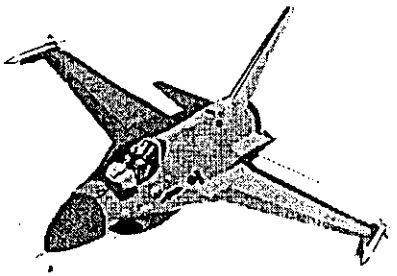
West Parking Lot - DNAPL Investigation

Building 181 SVE



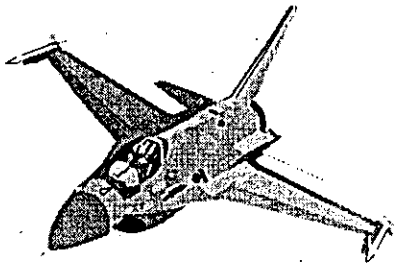
- Soil Vapor Extraction @ Building 181
  - Mechanical failure with water separator in Dec 99.
  - Blower also had to be re-furbished.
  - Re-start up estimated 21 Feb 2000
  - System critical for our Soil Heating Pilot study.

Soil Heating Pilot Study



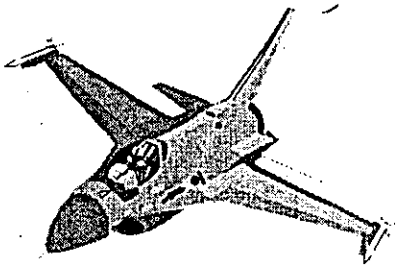
- Enhanced Dense Non-Aqueous Phase Removal
  - Six Phase Soil Heating in Bldg 181
  - Review Meeting held at AFP 4 on 13 Jan 00.
  - Six Phase Test on-going at Cape Canaveral
  - AFP 4 work to commence this late winter/spring.

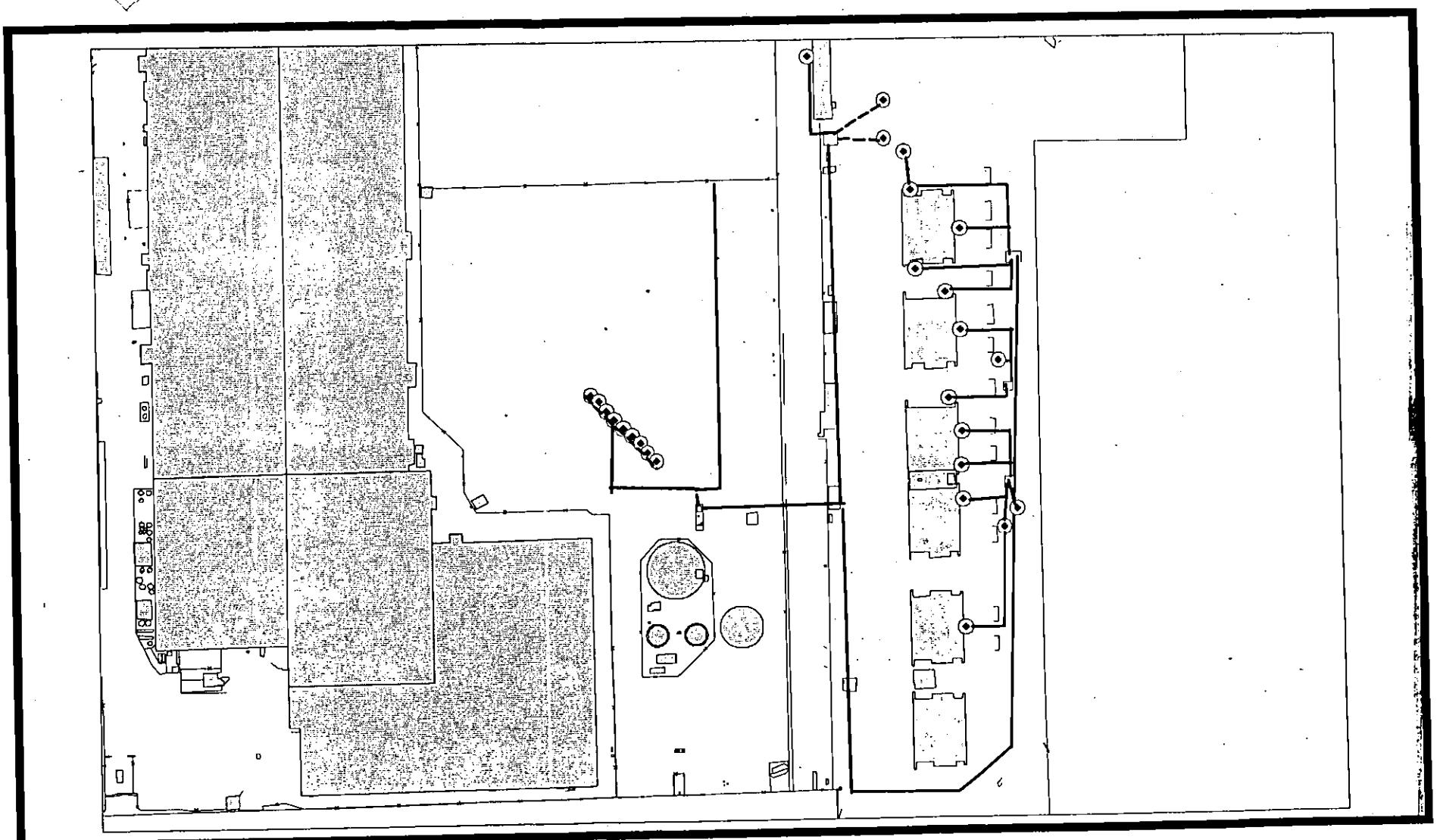
Remedial Design/Action
East Parking Lot



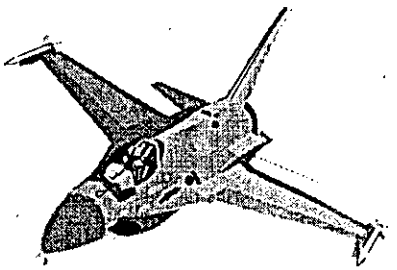
- East Parking Lot
  - Goal is to Cut Off Source from "Window Area"
  - Remedial Design 100% Completed
  - Interim EPL system will be turned off late Feb.
  - Construction to follow, start up in Sept 2000.

East Parking Lot Remedial Action



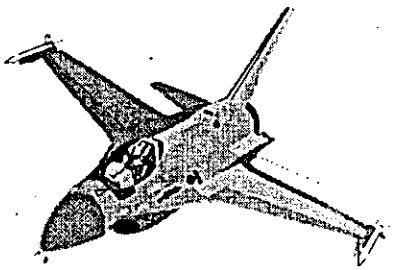


Remedial Design
East Parking Lot



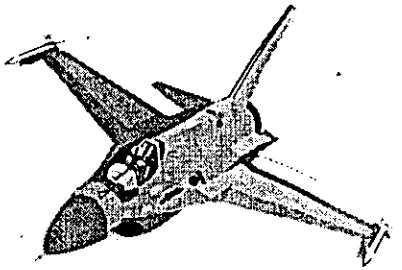
- Window Area Treatment System
  - USGS/Jacobs Engineering Utilizing Ground Water Model to Determine Location & Pumping Rates of Extractions Wells
  - Window Area Located Above Run-Up Stations
  - Alternative Extraction Well Schemes
    - (Horizontal Wells)

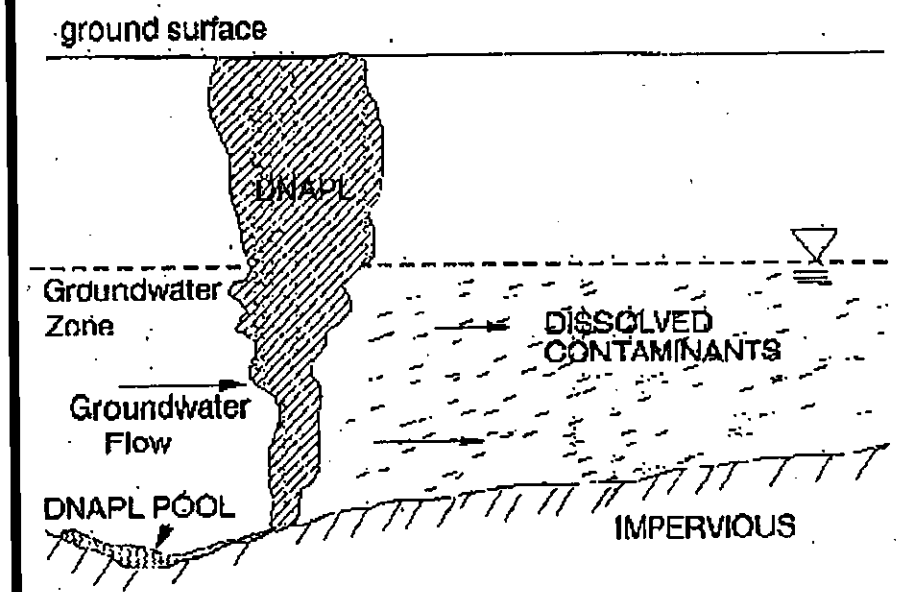
West Parking Lot Inv.

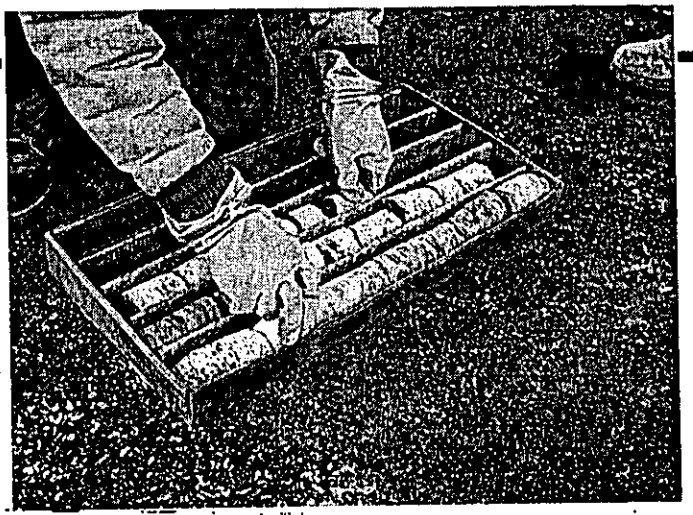


- West Parking Lot Investigation.
  - Additional Investigation of Source Area (LF01 at West Parking Lot)
  - DNAPL - Dense Non-Aqueous Phase Liquid (TCE)
    - A sinker! Heavier than water, specific gravity of ~1.5
    - Low Viscosity (0.57), will saturate a porous media more readily than water, and flow 1.5-3.0 times faster.
    - See EPA Document EPA/540/4-91-002

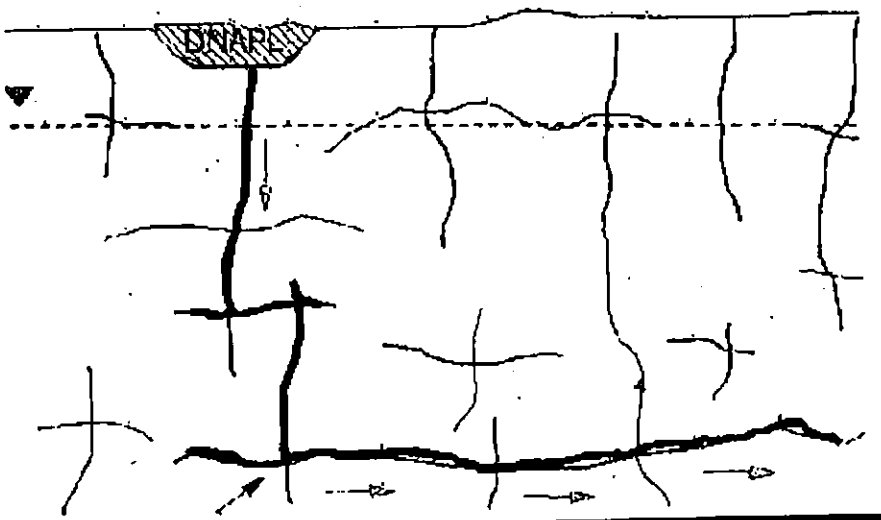
Air Force Plant 4



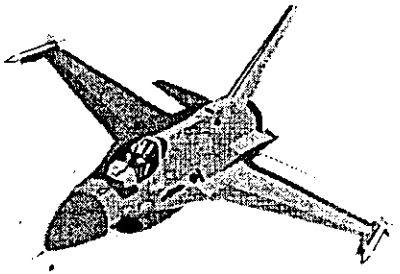


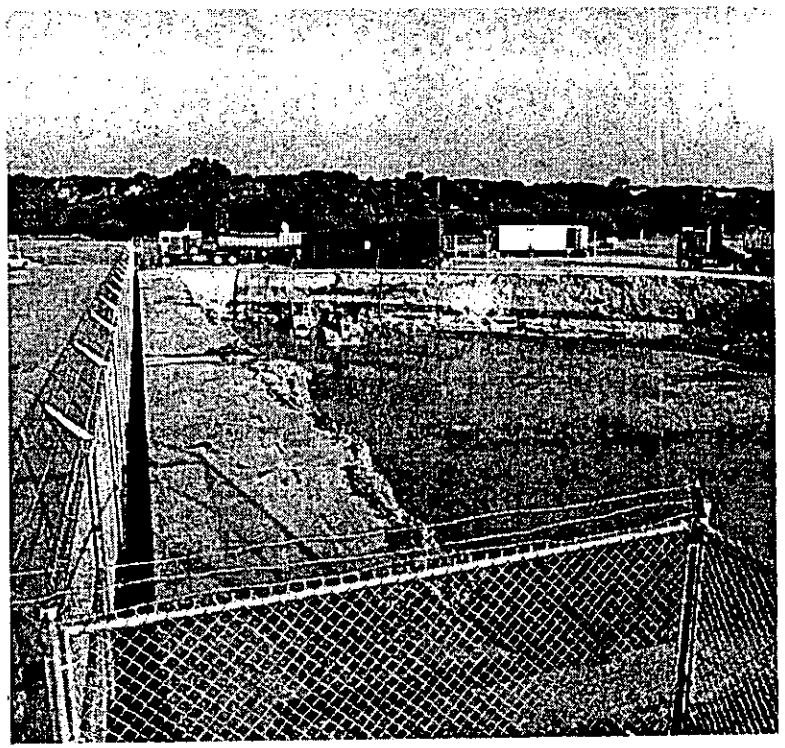


HORIZONTAL DNAPL MIGRATION IN FRACTURED ROCK



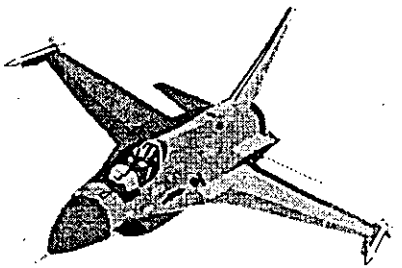
Air Force Plant 4





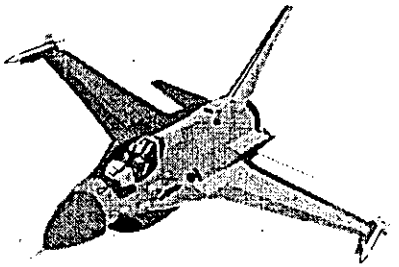
11,000 cu/yds removed in 1983 from Landfill #1

DNAPL WEB SITES



- www.getf.org/dnaplguest\ — Cape Canaveral, Florida
- www.gwrtac.org
- www.dnapl.com
- www.cesiweb.com — Six Phase Soil Heating
- www.theitgroup.com — In Situ Oxidation

Air Force Plant 4



- Questions?
- Call with questions and/or concerns
  - Toll Free at 1-800-982-7248
  - George Walters x416
  - Dan Johnson x346
  - Luda Voskov TNRCC 512-239-6368
  - Ruben Moya EPA 214-665-2755

Air Force Plant 4

Operated by Lockheed Martin Tactical Aircraft Systems, Fort Worth, Texas

Fact Sheet

Aeronautical Systems Center • Wright-Patterson Air Force Base, Ohio • February 2000• PAM 00-008

New Technology Enhances Soil Vapor Extraction System in Bldg. 181

Cleaning up a contamination site is not a simple task. There is no single answer on what works best. Every area has its own set of contaminants, soil types, geology, and groundwater systems. Each site must be analyzed to determine the most effective cleanup technologies for its unique characteristics. Air Force Plant 4 (AFP 4) in Fort Worth, Texas, is no exception.

The Air Force is evaluating a new technology to help environmental cleanup at AFP 4. Six Phase Soil Heating (SPSH) is being tested under a pilot project to enhance the soil-vapor extraction (SVE) system which removes contamination from the soil under Bldg. 181. The environmental cleanup of the plant is managed by the Acquisition Environmental, Safety and Health Division of Aeronautical Systems Center (ASC) at Wright-Patterson Air Force Base, Ohio.

In July 1999, AFP 4 began operating its new, expanded SVE system as a response to concerns of trichloroethylene (TCE) contamination in the soil under the building (see Figure 1). In the SVE system, extraction wells remove TCE-contaminated water and vapor from the ground. A groundwater treatment system eliminates the TCE from the groundwater through air stripping.

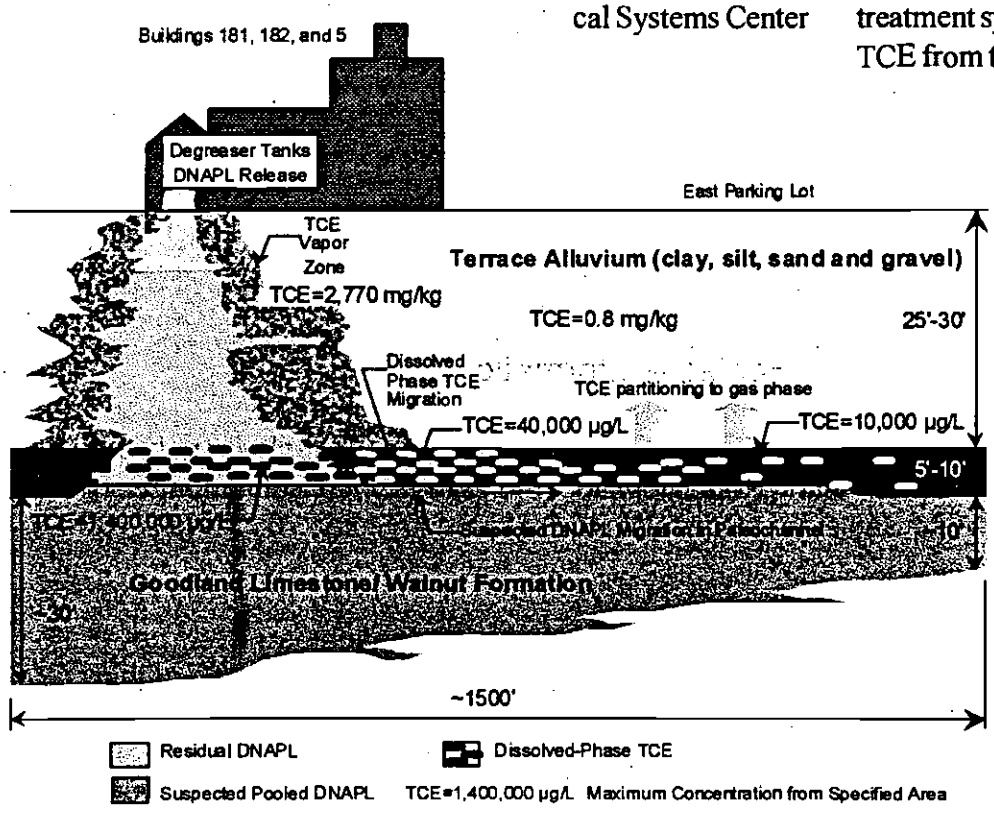


Figure 1. TCE from degreaser tanks in Bldg. 181 has, over time, penetrated the soil beneath the building. Some of the TCE lies in a pool atop the Goodland Limestone/Walnut bedrock formation, which extends beneath the plant's east parking lot.

Designed by Battelle Pacific Northwest Laboratory, SPSH works by combining with a proven technology, such as AFP 4's SVE system, to boost cleanup in difficult conditions. SPSH is especially suited to sites where contaminants are tightly bound in clay layers and are thus difficult to remove using SVE technology alone.

To release the TCE vapors, SPSH raises the temperature of the soil by passing standard electrical current through the soil's moisture. This heating has several impacts on the soil:

- It increases the ability of TCE to vaporize.
- It subsequently aids in vapor extraction from the soil.
- The heating creates steam which increases the soil's porosity. Soil porosity allows vapors and liquids to move through it.

SPSH uses conventional utility power to heat the soil with six electrodes placed in a hexagonal pattern at the site. A vapor extraction well, located in the center of the hexagon, is used to remove the contaminants, air, and steam.

At Bldg. 181, SPSH is expected to accelerate cleanup of a particularly concentrated amount of TCE, called Dense Non-Aqueous Phase Liquid, or DNAPL. The DNAPL is pooled on top of the Goodland Limestone/Walnut bedrock formation that lies beneath the building and extends under the east parking lot area. The system is designed to work with the SVE system already in place and a pump-and-treat system in the east parking lot.

The pilot test has an ambitious schedule. Construction of the project at Bldg. 181 begins in February 2000, with operation start-up scheduled for early March. Sampling, data collection and analysis, and report preparation should be complete by June 2000. If the pilot project proves successful, the Air Force will consider building a full-scale system to address the entire DNAPL plume area.

According to Wayne Lundberg, a physical scientist at ASC, determining cost savings and reduction in the cleanup schedule is difficult. However, he expects SPSH to show a discernible savings in both time and money over existing technologies alone in reaching cleanup goals. Lundberg adds, "It's the most effective approach we can get right now. The Interagency DNAPL Consortium endorses SPSH as one of the top three technologies available for treating DNAPL." In the cleanup effort at AFP 4, the search continues for more efficient and more effective methods of reaching Air Force goals.

For More Information

Documentation about the AFP 4/Carswell Airfield cleanup is available for public review in the AFP 4 Information Repository, located at the White Settlement Senior Services, 8211 White Settlement Road, White Settlement, Texas 76108, (817) 367-0166.

For more information, contact the Restoration Program Manager, Mr. George Walters, at ASC/ENVR, 1801 Tenth Street, Suite 2, Wright-Patterson AFB, Ohio 45433-7626, or call 1-800-982-7248 extension 416, or the Public Affairs Specialist, Mr. Daniel Johnson at extension 346.

PROGRAM STATUS

- CLOSURE REPORTS
  - AEROSPACE MUSEUM
  - GOLF COURSE MAINTENANCE YARD
  - GROUNDS MAINTENANCE YARD
  - UNNAMED STREAM
- WEAPONS STORAGE AREA
- SANITARY SEWER INVESTIGATIONS
- LANDFILL INVESTIGATIONS
  - LANDFILLS 4, 5, AND 8
  - WASTE PILE 7

PROGRAM STATUS
CLOSURE REPORTS

- FIELD WORK COMPLETED IN MARCH 1999
- APPROVAL OF CLOSURE REPORT FOR GOLF COURSE MAINTENANACE YARD OBTAINED FROM TNRCC IN AUGUST 1999
- CLOSURE REPORT FOR UNAMED STREAM SUBMITTED TO TNRCC ON SEPTEMBER 29, 1999
  - ADDITIONAL INVESTIGATION NEEDED
- REMAINDING CLOSURE REPORTS BEING REVISED
  - UNITEC WILL COMPLETE REPORT IN MARCH 2000

PROGRAM STATUS
WEAPONS STORAGE AREA

- ADDITIONAL FIELD INVESTIGATIONS COMPLETED SEPTEMBER 1999
- ADDITIONAL FIELD WORK FOR ADDITIONAL SOIL EXCAVATION COMPLETED IN NOVEMBER 1999
- COMPLETE CLOSURE REPORT BY APRIL 2000

PROGRAM STATUS
SANITARY SEWER INVESTIGATIONS

- ADDITIONAL INVESTIGATIONS FUNDED
- WORKPLAN SCHEDULED FEBRUARY 2000
- CONDUCT INVESTIGATIONS IN SPRING 2000 (sampling)
- expect to resolve issues and COMPLETE CLOSURE REPORTS BY FALL 2000

PROGRAM STATUS
LANDFILL INVESTIGATIONS

- ADDITIONAL FIELD INVESTIGATIONS TO COMPLETE RCRA FACILITY INVESTIGATION (RFI) SCHEDULED IN FEBRUARY 2000
- RFI REPORT SCHEDULED IN MARCH 2000
- COMPLETE DESIGN OF CORRECTIVE MEASURE IMPLEMENTATION (CMI) FOR SOILS ONLY IN MAY 2000
- COMPLETE CONSTRUCTION OF CMI IN AUGUST 2000

PROPERTY TRANSFER UPDATE

- CARSWELL BUSINESS PARK AREA
  - COMPLETED IN DECEMBER 1999
- FEDERAL BUREAU OF PRISON HOSPITAL
  - AWAITING TNRCC UST CLOSURE LETTER
  - SCHEDULED TO BE COMPLETE IN MARCH 2000
- LAND TRANSFER TO NAVY IN MARCH 2000
- KINGS BRANCH HOUSING AREA IN MAY 2000
- WEAPONS STORAGE AREA IN JUNE 2000 will probably be put up for sale in summer
- HORSE STABLES AREA IN SEPTEMBER 2000

- Golf Course
- Housing Housing] next few years

NAS Fort Worth JRB Installation Restoration Program Update

Michael R. Dodyk

February 10, 2000

SWMUs 19, 20, 21, and 53; AOCs 17, 18, and 19

- Work Plans submitted to AFCEE in December 1999 for investigation of these sites:
  - SWMUs 19, 20, and 21--Former Fire Training Area No. 2
  - SWMU 53--Storm water drainage system
  - AOC 17--Suspected former landfill
  - AOCs 18 and 19--Suspected former fire training areas
- Field work is scheduled to begin April 2000.

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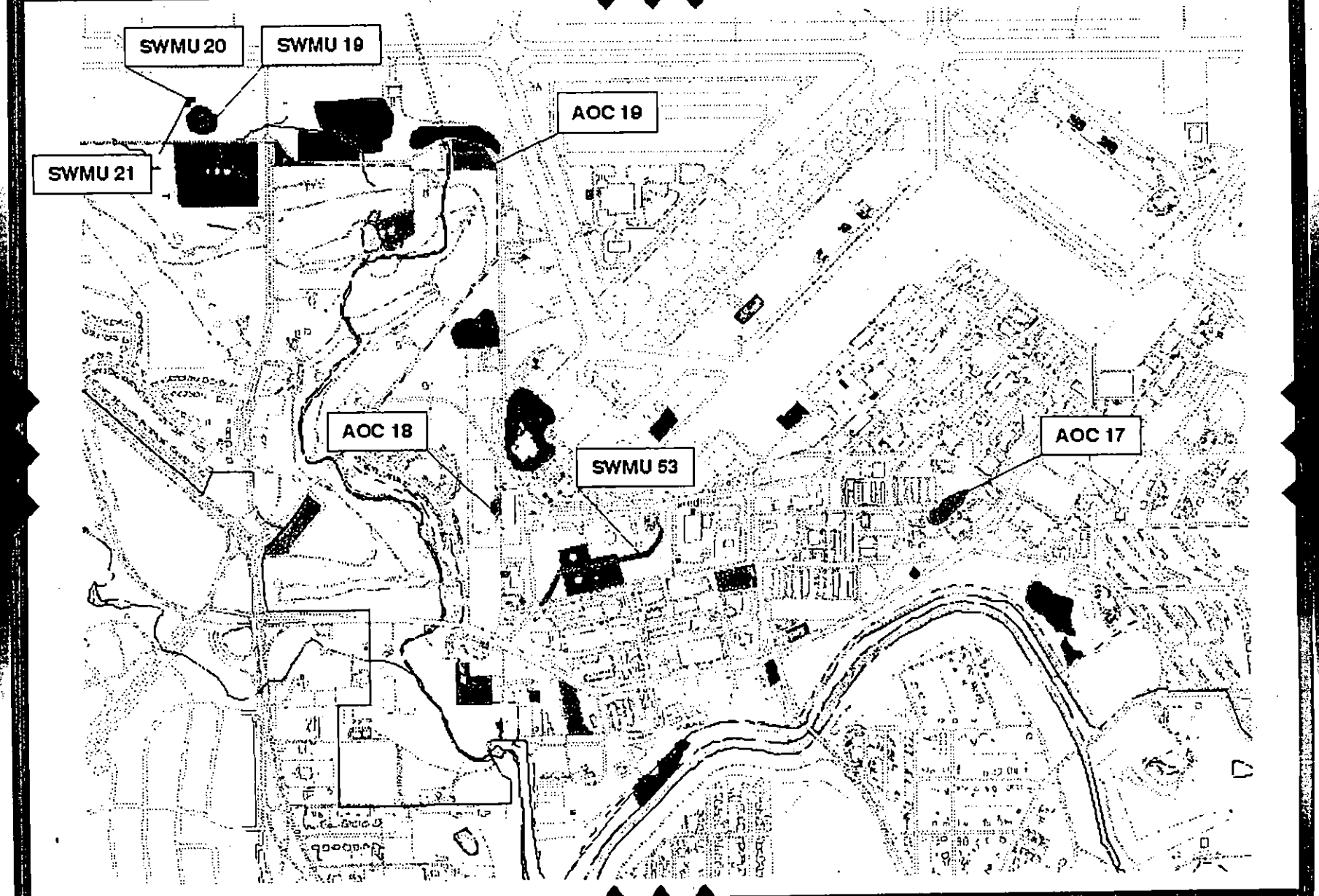
SWMU 20
SWMU 19
AOC 19
SWMU 21
AOC 18
SWMU 53
AOC 17

Groundwater Sampling and Analysis Program

- 2000 Groundwater Sampling and Analysis Plan submitted to AFCEE in December 1999
  - This plan outlines quarterly groundwater monitoring activities for NAS Fort Worth.
- 1999 Annual Report submitted to AFCEE in January 2000.
  - The report presents plume characteristics and trends since the beginning of the GSAP.
- The next quarterly groundwater sampling event slated for later this month.

HYDRO GeoLogic INC.

RCRA Facility Investigation of Landfills

- Additional field activities proposed at Landfills 1, 2, 3, 6, 7, and 9.
- A Draft Phase III RFI Work Plan for additional field work was submitted to AFCEE in December 1999.
- Field activities proposed for spring 2000.
- RFI Report planned for submittal to AFCEE in Summer of 2000, pending successful completion of delineation activities.

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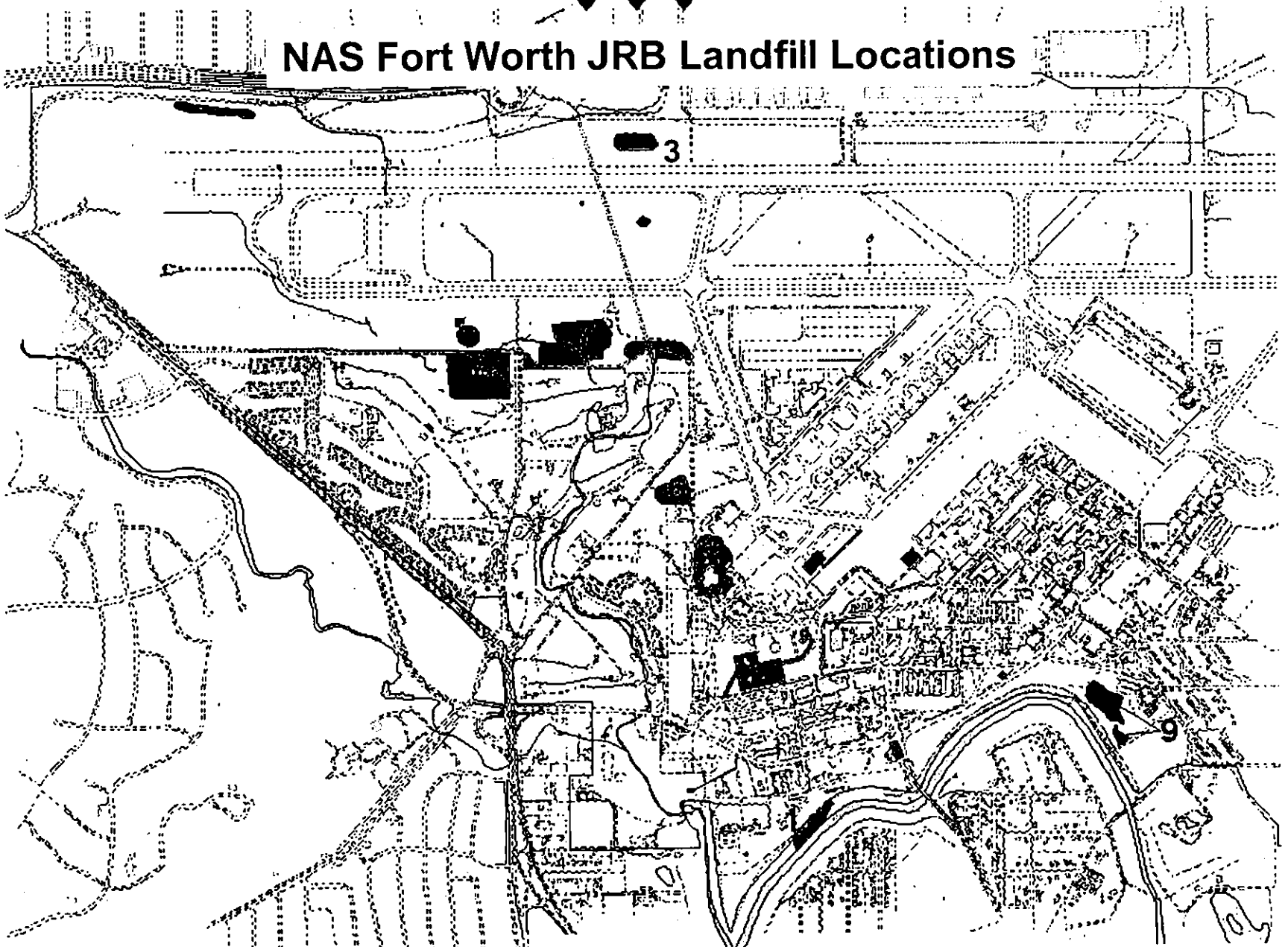
NAS Fort Worth JRB Landfill Locations



Waste Accumulation Areas

- The initial field investigation of 16 Waste Accumulation Areas (WAA) was completed in June 1999.
- A Draft Phase II RFI Work Plan was submitted to AFCEE earlier this month which presents investigation results and proposes additional soil and groundwater sampling for 9 of the 16 WAAs.
- An RFI report is currently being prepared for submittal this spring to TNRCC to present findings and to recommend no further action for 7 of the 16 WAAs.

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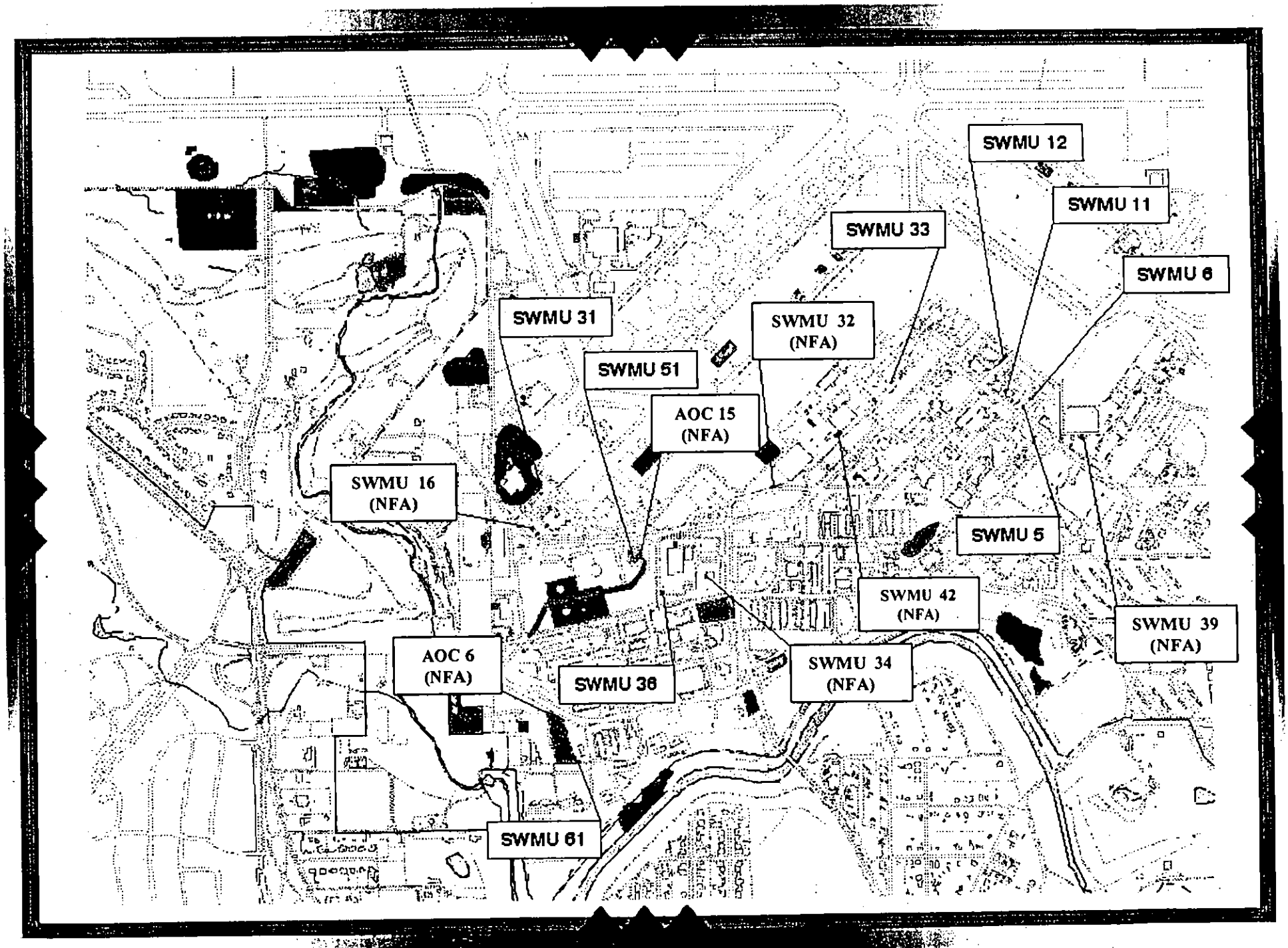
SWMU 12
SWMU 11
SWMU 33
SWMU 6
SWMU 31
SWMU 32
(NFA)
SWMU 51
AOC 15
(NFA)
SWMU 16
(NFA)
SWMU 5
SWMU 42
(NFA)
SWMU 39
(NFA)
AOC 6
(NFA)
SWMU 38
SWMU 34
(NFA)
SWMU 61

UST Investigation

- Initial investigation results presented to AFCEE in November 1999. Initial results briefed to TNRCC in December 1999.
  - Initial findings indicate 5 of the 12 USTs may meet closure requirements. A technical memorandum requesting closure was submitted to AFCEE earlier this month.
  - Remaining 7 USTs require additional soil and/or groundwater investigation.

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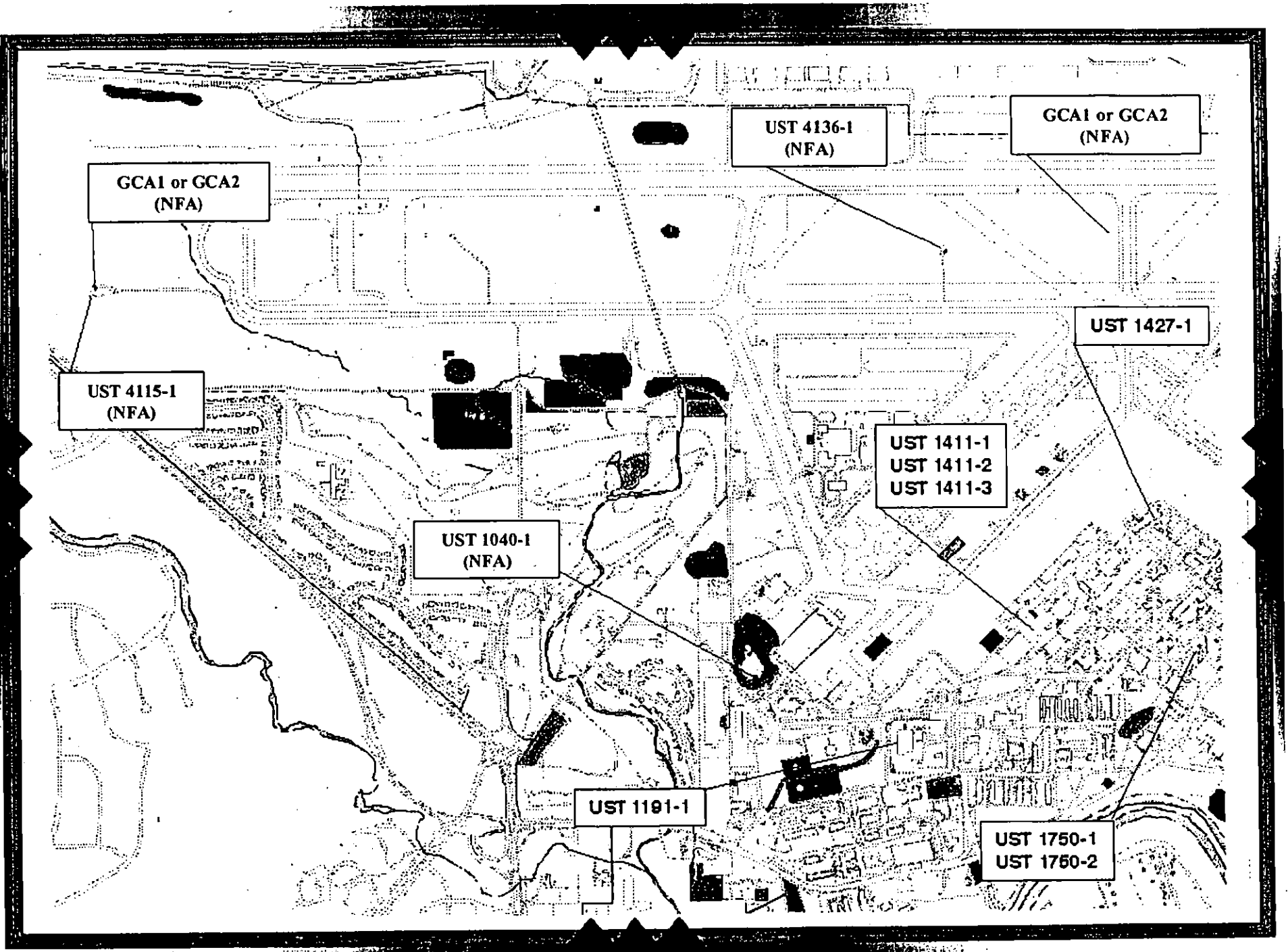
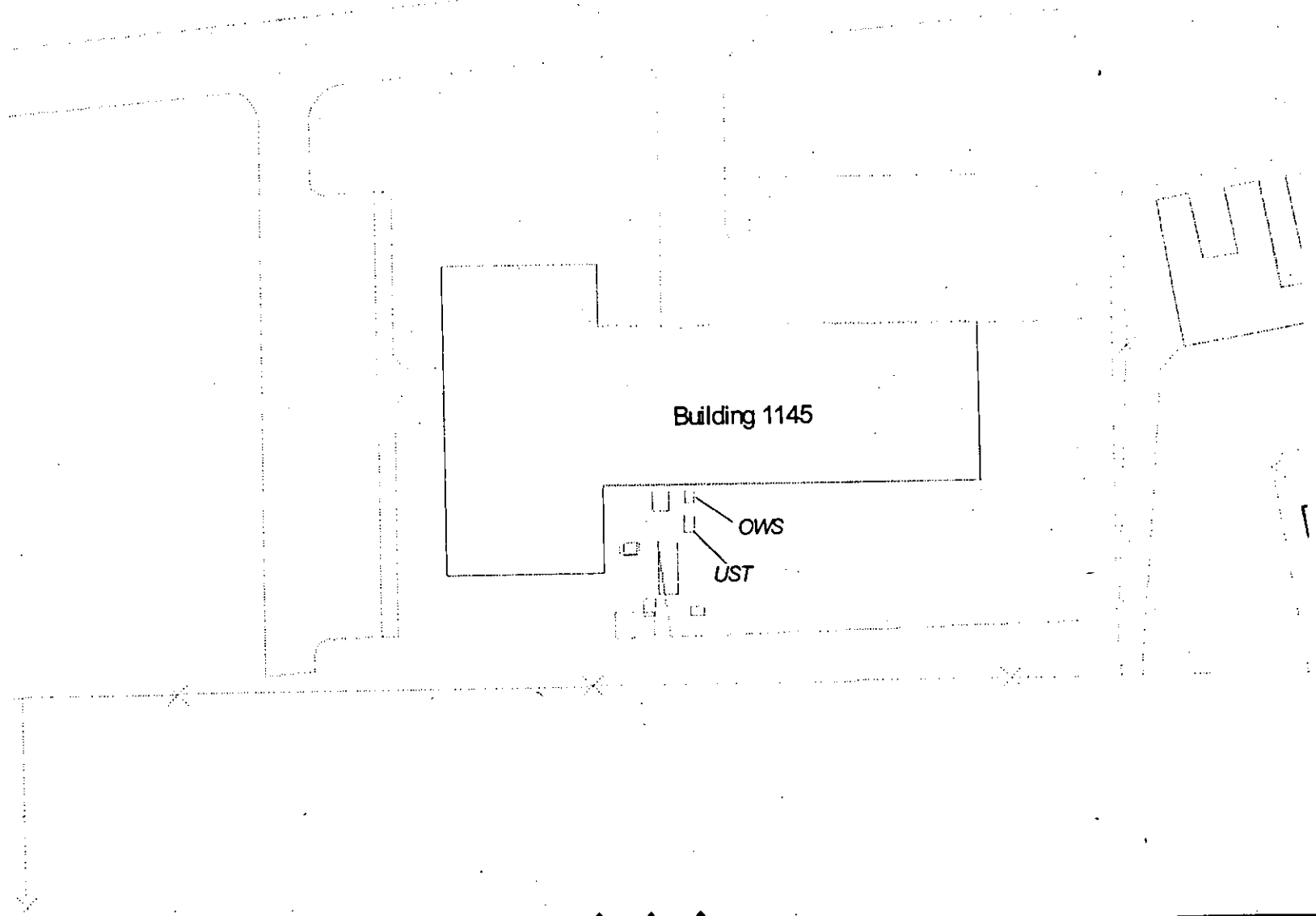

GCA1 or GCA2
(NFA)
UST 4136-1
(NFA)
GCA1 or GCA2
(NFA)
UST 1427-1
UST 4115-1
(NFA)
UST 1411-1
UST 1411-2
UST 1411-3
UST 1040-1
(NFA)
UST 1191-1
UST 1750-1
UST 1750-2

Corrective Measures at AOC 13

- Site investigation completed in 1998 identified contamination beneath AOC 13 (Hobby Shop OWS and associated UST).
- Design documents to remove and replace the OWS and UST were submitted to AFCEE and the Navy in October 1999.
- RFP solicited bids for removal contractors and a pre-bid meeting held January 14, 2000.
- Construction activities to begin this spring.

HYDRO GeoLogic INC.

Building 1145 Oil Water Separator



AOC 4 Site Investigation Report

- Field investigation of AOC 4 (the Fuel Hydrant System) completed January 1999.
- The Draft SI Report and Assessment Report Form was submitted to TNRCC in August 1999.
- Efforts in 1999 included weekly product removal and quarterly groundwater monitoring for 1 year.
- Efforts in 2000 include weekly product removal, as necessary, and semi-annual monitoring for 1 year.
- The Internal Draft Annual Groundwater Sampling Report for 1999 will be submitted to AFCEE later this month.

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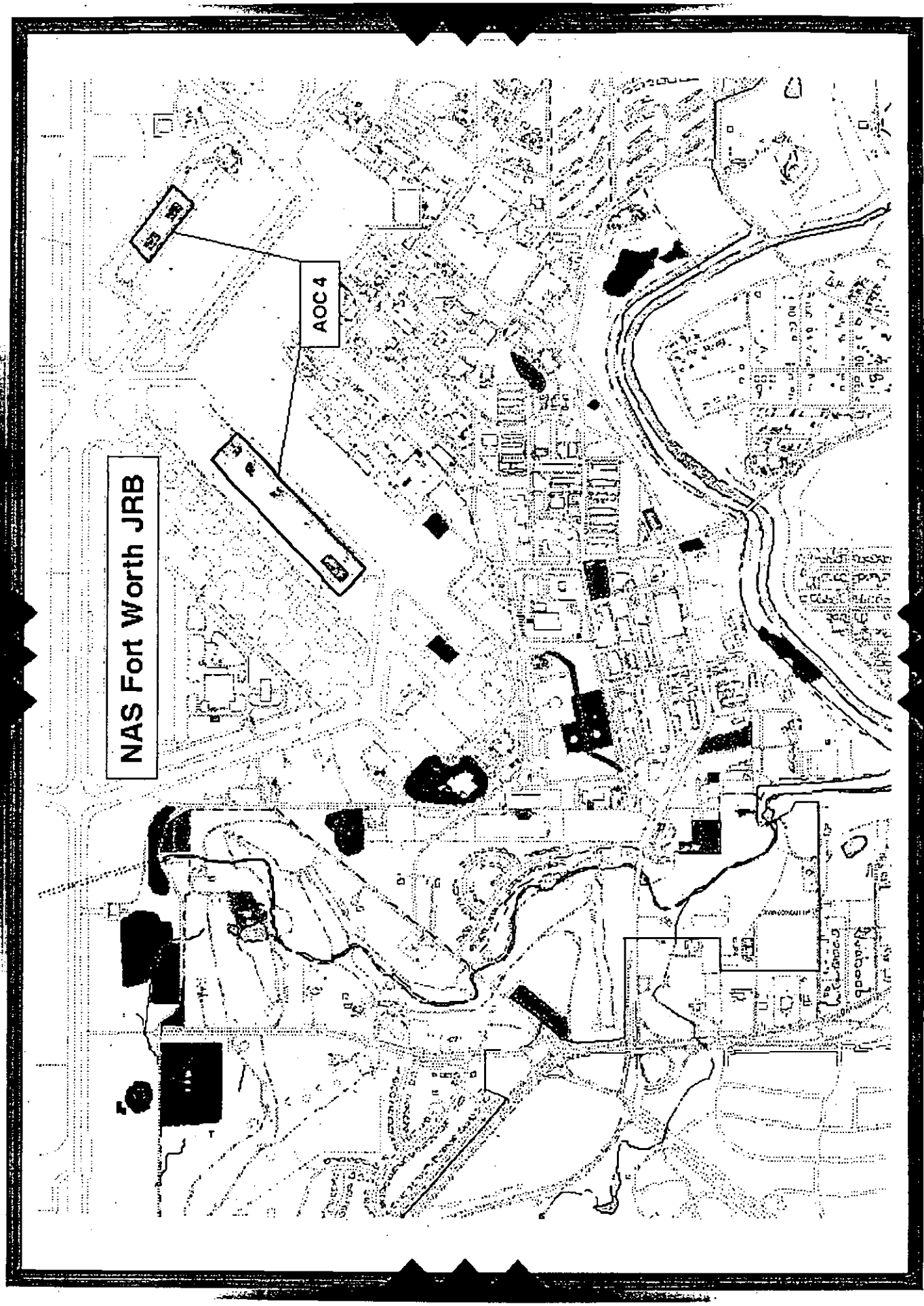
NAS Fort Worth JRB
AOC 4

Monitoring Well Abandonment and Repair

- Work Plan for well abandonment and repair was submitted to TNRCC in January 2000.
- 12 monitoring wells are proposed for abandonment, and 5 monitoring wells are proposed for extensive repair.
- Field efforts are scheduled to commence this spring.

HYDRO GeoLogic INC.

SWMU 7 and SWMU 8

- A Final Closure Report was submitted to TNRCC in January 2000 requesting No Further Action at SWMU 7 (Building 1628 OWS) and SWMU 8 (associated waste oil UST).
- Request for No Further Action is based on the conclusion that there has been no release of hazardous constituents from either site.

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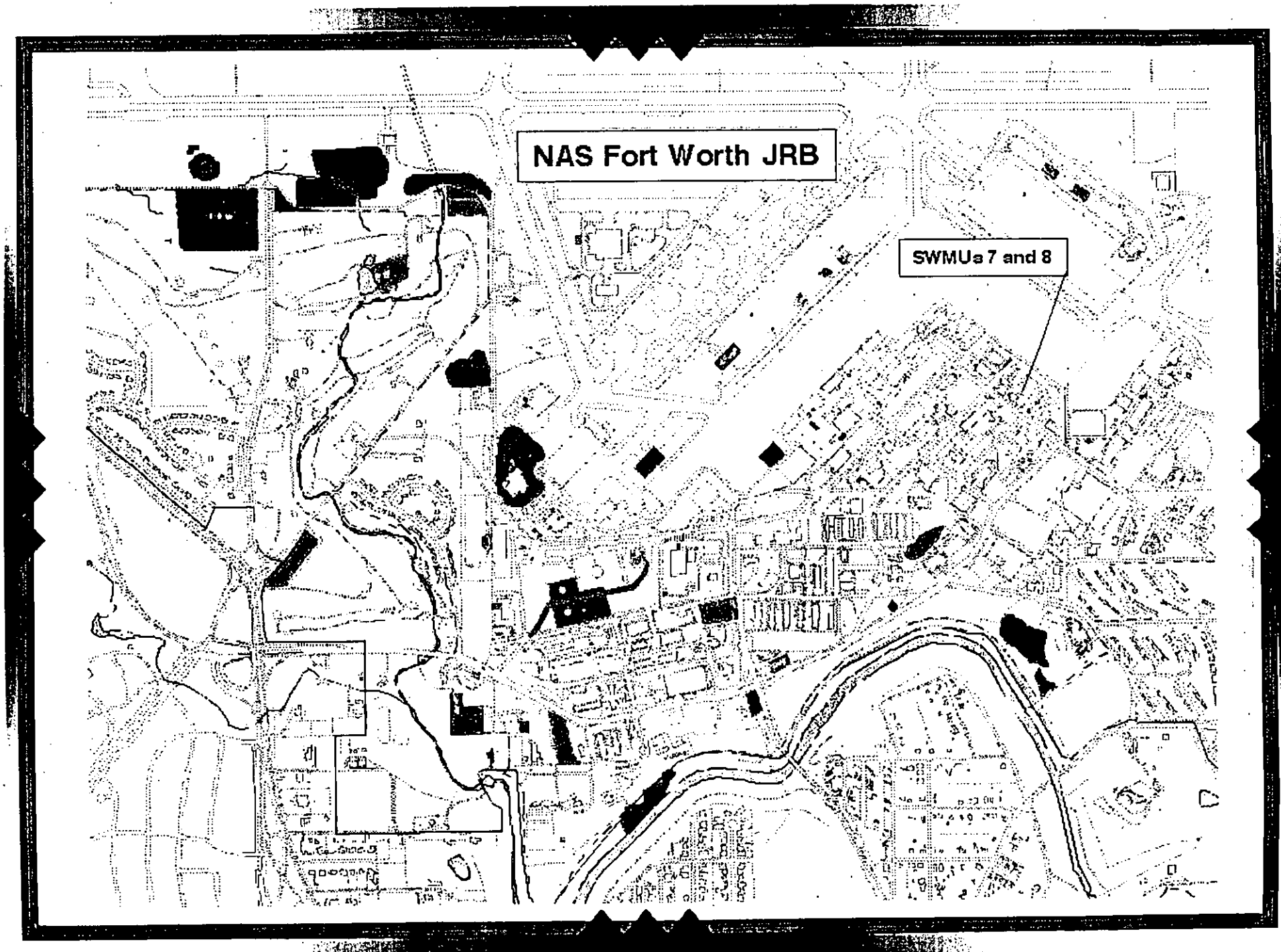

NAS Fort Worth JRB
SWMUs 7 and 8

CHARTER OF THE CARSWELL/PLANT 4 RESTORATION ADVISORY BOARD

I. NAME

This organization shall be known as the Carswell/Plant 4 Restoration Advisory Board (RAB). The Carswell/Plant 4 RAB will fulfill all requirements of 10 USC Section 2705 © for the Technical Review Committee at Department of Defense Installations.

II. PURPOSE

A. Provide an opportunity for the community affected by the environmental cleanup at Carswell and Air Force Plant 4 (AFP 4) to participate in the decision-making process for the cleanup. This Board shall help identify the environmental issues at Carswell and AFP 4 and help resolve those issues in a manner satisfactory to the community.

B. Provide a direct line of communication between the community and the regulators who are involved in oversight of the Carswell and AFP 4 environmental cleanup program.

C. Create a communication process between the U.S. Air Force and the local community that will promote community awareness of local environmental issues and educate community members to the issues that affect them.

III. AUTHORITY

The basis and authority for this charter is the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), particularly Sections 120 (a), 120 (f), and 121 (f) and 10 USC 2705, enacted by Section 211 of CERCLA.

IV. MEMBERSHIP AND RESPONSIBILITIES OF MEMBERS

A. The RAB shall consist of the representatives from the community who have volunteered to serve on the RAB and have signed this charter. These shall be the voting members of the RAB.

The following shall serve as ex-officio members and shall not have voting privileges:

Government Cochairpersons -- Rotated among the Carswell On-Base, Carswell Off-Base and AFP 4 Remedial Project Managers (RPMs)
US EPA Project Coordinator(s)
TNRCC Project Manager(s)

B. Members shall serve without compensation. All expenses incident to travel shall be borne by the respective member's organization, if appropriate.

C. RAB membership shall be periodically reviewed by the RAB. The RAB may vote to include new members, remove inactive members, or solicit new members to represent groups not currently represented on the RAB. Nominations shall be reviewed and approved by a majority of the voting members of the RAB present at the meeting.

D. Voting membership shall not exceed 20 in number. Members shall serve a term of 3 years. A member may be asked by the board to remain for subsequent three year terms.

E. Members must be willing to communicate with the local community members and interest groups concerning specific cleanup issues and bring local concerns to the attention of the RAB. Members shall serve as a direct and reliable conduit for communication between the public and agencies responsible for cleanup activities. RAB members' names and telephone numbers will be made available to the public.

V. STRUCTURE AND OPERATING PROCEDURES

A. The Carswell On-Base, Carswell Off-Base and AFP 4 RPMs shall serve as the rotating Government Cochairperson of the RAB. A voting member, to be chosen by majority vote of the RAB members present at the meeting when the election is held, shall serve as the Community Cochairperson for one year from the signing of this charter. The Community Cochair may serve more than one term if so elected by the RAB. The RAB membership is responsible for terminating a cochair who is ineffective or detrimental to progress of the RAB. Cochair removal is determined by a majority vote of RAB voting membership at the meeting where removal is addressed.

B. The community cochair shall be responsible for presiding at each meeting; if unavailable, the government cochair shall preside. The RAB cochairpersons shall be responsible for coordinating an agenda for each meeting. AFP 4 will provide administrative support to disseminate meeting minutes and agendas for each meeting to the membership at least one week prior to each scheduled meeting. Agenda items for the next meeting will be decided on at the conclusion of each meeting and/or submitted to the cochairs at least two weeks prior to a scheduled meeting. Carswell Off-Base shall take minutes at each meeting and provide the minutes to AFP 4 for distribution to all members and other interested parties who may request the minutes. Appropriate background materials for meeting topics shall be provided by each government entity as appropriate.

C. Meetings shall be held quarter, on a second Thursday, or as otherwise directed by the RAB. Additional meetings may be held as determined by the cochairpersons or by a request of a majority of the RAB membership.

D. All meetings shall be open to the public and announced by a press release to the local newspapers. This shall be accomplished by the AFP 4.

E. Each meeting shall follow the agenda as determined by the cochairs and submitted to the members prior to the meeting. Meetings shall be conducted according to Robert's Rules of Order or similar format. Observers at the meetings may ask questions related to the agenda item under discussion, but other questions and comments shall be held until the Open Discussion part of the meeting that will be included on each agenda.

F. A quorum shall consist of the RAB voting members present. General business conducted during meetings that warrants voting shall be determined by a simple majority vote (50% + 1) of the RAB members present. The RAB, in attempting to resolve issues and problems that may arise during the course of the cleanup process activities, shall use consensus whenever possible. When dissenting opinions exist, they will be noted in the meeting minutes.

VI. EFFECTIVE DATE AND MODIFICATION

A. The effective date of this charter is the date of the first signature.

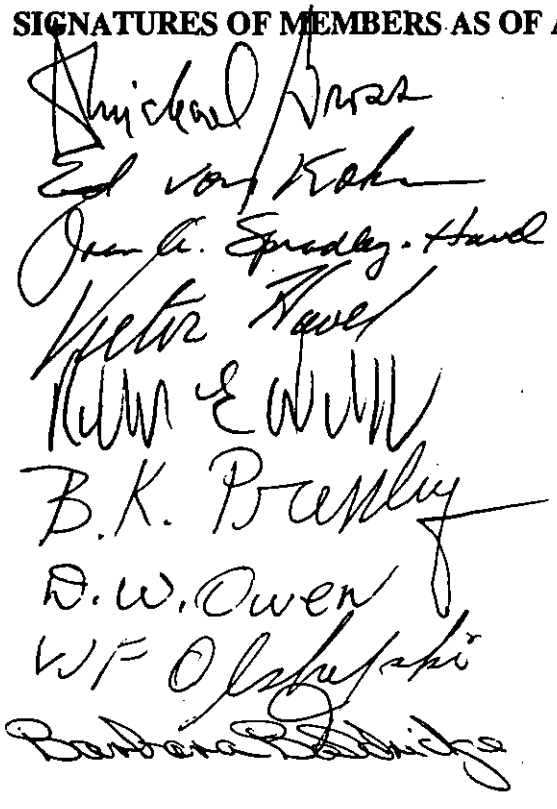
B. This charter may be amended by a 2/3 vote of the voting members present at the meeting where the amendment is presented for vote. All amendments must be in writing and placed on the meeting agenda for one meeting prior to voting on the amendment.

VII. DISSOLUTION OF THE RAB

The provisions of the Charter shall be satisfied and considered complete when 2/3 of the members agree in writing to terminate the RAB.

IT IS SO AGREED

SIGNATURES OF MEMBERS AS OF AUGUST 8, 1996.



John M. Vorpka

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Guy Henderson

Vincent A Mikus

S B John

FINAL PAGE

ADMINISTRATIVE RECORD

FINAL PAGE